

Dec. 29, 1931.

C. A. BUNKER

1,838,525

CAN OPENER

Filed May 20, 1926

2 Sheets-Sheet 1

Fig. 1.

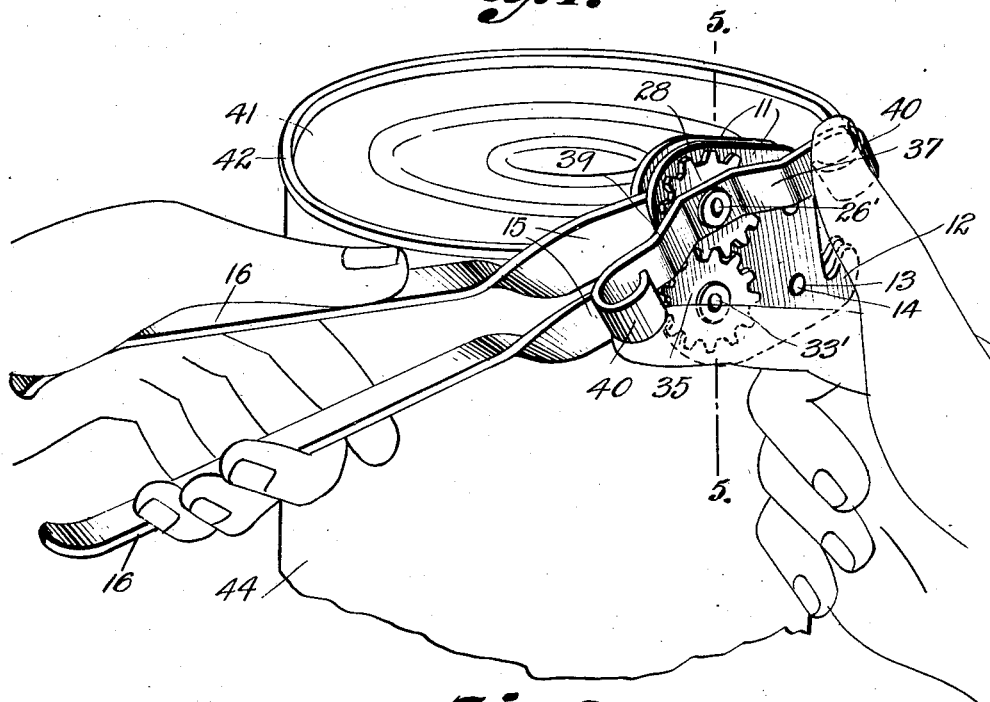
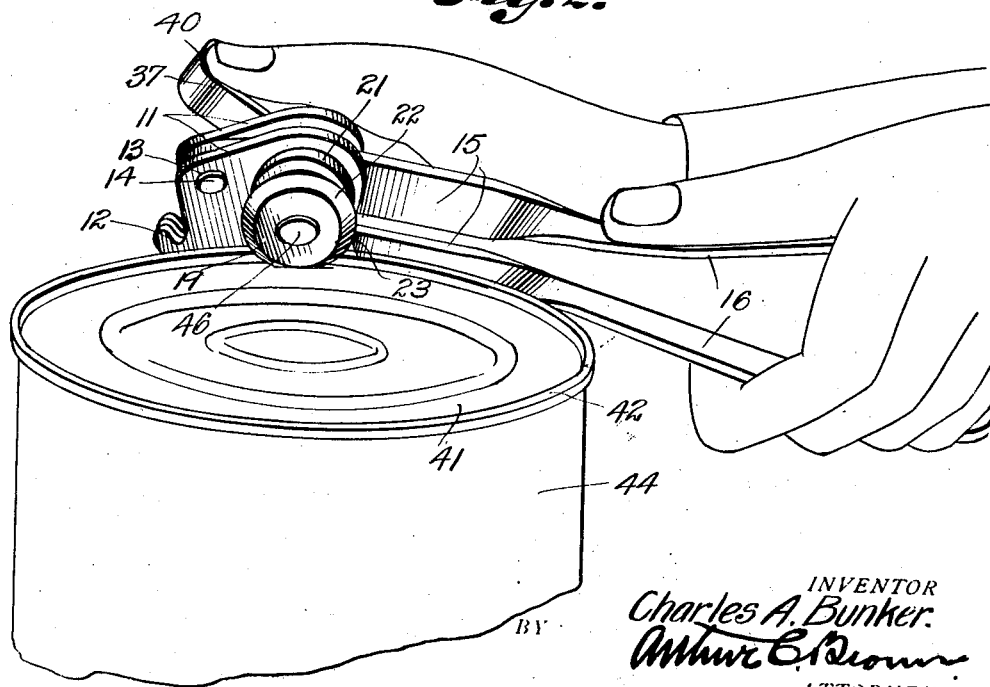


Fig. 2.



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Fig. 3.

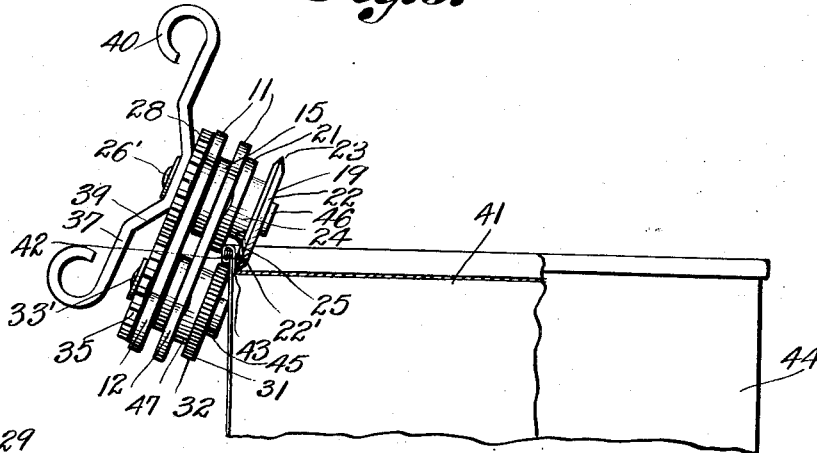


Fig. 4.

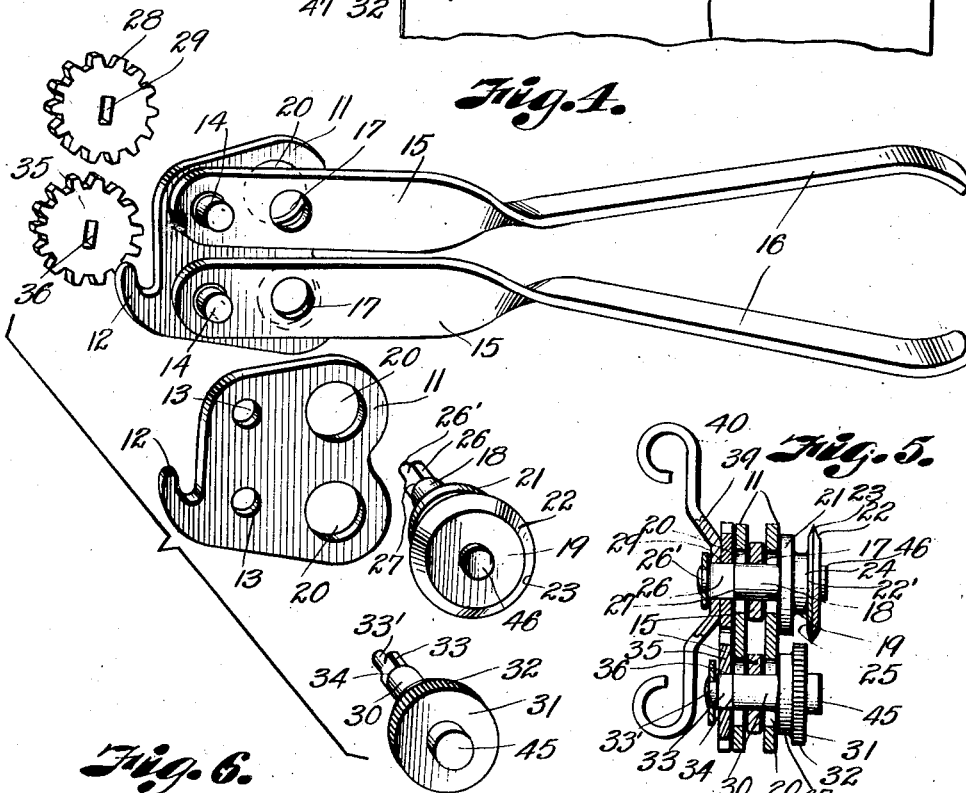


Fig. 5.

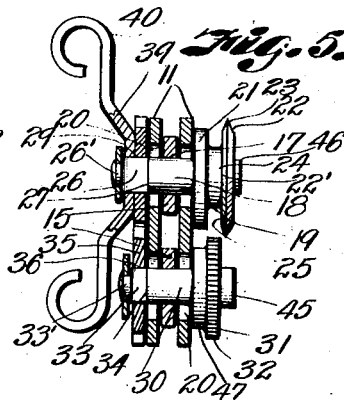
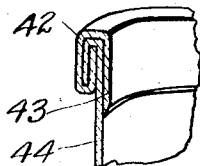


Fig. 6.



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UNITED STATES PATENT OFFICE

CHARLES ARTHUR BUNKER, OF KANSAS CITY, MISSOURI, ASSIGNOR TO BUNKER-CLANCEY MANUFACTURING COMPANY, OF KANSAS CITY, MISSOURI, A CORPORATION OF MISSOURI

CAN OPENER

Application filed May 20, 1926. Serial No. 110,422.

My invention relates to can openers and more particularly to a can opener that is adapted to remove the entire can end from the can.

5 It is a purpose of my invention to provide a can opener that is adapted to cut the can end from the can, it being immaterial whether said end is the cap portion or the bottom end of the can. The important fea-
10 ture of the invention is that the can opener is adapted to cut through the end of the can entirely around the same without leaving a rough edge. This is accomplished by providing the can opener with means for turning
15 the cut edge of the can against the body portion of the can.

It is more specifically the purpose of my invention to provide a can opener having rotatable cutter and feeding members with
20 means for turning the cut edge of the can against the body portion thereof, said cutter member being preferably provided with a groove adjacent the cutting edge thereof into which the edge of the can may be forced
25 to allow the cutter to turn the cut edge against the body portion of the can.

It is another purpose of my invention to provide a can opener that cuts through the end portion of the can entirely around the
30 same inwardly of the seam between the end and side wall instead of through the side wall of the can as has been previously done. The seam thus serves as means for providing a smooth edge around the top of the can
35 after the same has been cut.

It is also a purpose of my invention to provide a can opener that is adapted to grip the can; so that when the contents of the can is heated while in the can, the heated can is removed without touching the same with the hands, by gripping the same with my can
40 opener, the can then opened therewith and the edge of the can at the open end thereof gripped by means of my can opener to empty
45 the same.

Other objects and advantages of the invention will appear as the description of the accompanying drawings proceeds. However, I desire to have it distinctly understood that
50 I do not intend to limit myself to the exact

details shown or described, but that I intend to include as part of my invention all such obvious changes and modifications of parts as would occur to a person skilled in this art and as would fall within the scope of the 55 claims.

In the drawings:

Fig. 1 is a perspective view of my improved can opener in closed position, showing the same in engagement with a can, the 60 can being partly broken away.

Fig. 2 is a similar view showing the opposite side of the can opener.

Fig. 3 is a view partly in elevation and partly in section, showing the upper portion 65 of a can and the opener in partly closed position prior to complete penetration of the can top by the cutting wheel.

Fig. 4 is a perspective view of the can opener, showing the parts thereof separated. 70

Fig. 5 is a section taken on the line 5-5 of Fig. 1, the members being shown in partly closed position as in Fig. 3.

Fig. 6 is a fragmentary view partly in section of an opened can showing the cut 75 edge thereof turned against the can body.

Referring in detail to the drawings:

My improved can opener comprises a pair of plate like members 11 which are substantially identical, each of which may be provided with bottle decapping hooks 12. The plates 11 are provided with openings 13 through which the pivot pins 14 extend, which may be in the form of rivets extending through the plates 11 and through suitable 85 pivot openings in the ends of the lever members 15 which terminate in handle portions 16. The lever members 15 are thus pivotally mounted between the plates 11 on the pivot 90 members 14.

Each of the lever members 15 is provided with an opening 17 and one of said openings receives the outwardly extending shaft portion 18 provided on the cutter member 19. The shaft 18 also extends through one of the 95 enlarged openings 20 in each of the plates 11, there being a pair of such openings in each of the said plates. The cutter member 19 is further provided with a guide comprising an annular flange or shoulder 21 that engages 100

against one of the plates 11 and with a bevelled cutter member 22 having the cutting edge 23. Said cutter member is further provided with a portion of reduced diameter 24 between the cutting edge 23 and the annular shoulder 21 to provide a recess, the wall portion 25 being provided on the cutter member extending substantially at right angles to the axis thereof from the bevelled edge 22' to the reduced portion 24. The openings 20 in the plates 11 which are on opposite sides of the members 15 are adapted to align with the openings 17 in the members 15, and the shaft portion 18 extends through an opening 20 of one plate 11, the opening 17 in one of the levers 15 and an opening 20 in the other plate 11. The shaft 18 is provided with a somewhat flattened or rectangular portion 26 forming a shoulder at 27 where said portion 26 joins the rounded portion of the shaft 18. The flattened portion 26 terminates in a rounded end 26' and a gear 28 is mounted on the flattened portion 26 of the shaft 18 on the outer side of one of the plates 10, being provided with a rectangular opening 29 for receiving the flattened end 26' of the shaft. A crank handle member 37 which has a similar rectangular opening therein is also passed over the flattened end 26. The gear and handle may be secured to the flattened end of the shaft in any desired manner, as by riveting over the rounded end 26' of the shaft 18 against the washer 10.

Extending through the other opening 20 in each of the plates 11 and through the opening 17 in the other lever 15, is the shaft portion 30 extending outwardly from one side of the rotatable feeding member 31 which is provided with a roughened periphery 32. The outer face of the member 31 is in a plane approximately coincidental with the plane of the inner face of the flange 21, and the inner face of the member 31 is in a plane spaced slightly from the plane of the outer face of the cutting member, to permit the feeding member to enter the space between the shoulder and cutting member when the cutting member penetrates the lid of a can. A rectangular or flattened end portion 33 is provided on the shaft 30 defining a shoulder at 34 against which the gear 35 engages when the flattened portion 33 of the shaft 30 is passed through the opening 36 therein, which is substantially rectangular in shape. The gear 35 is held in position by riveting over the rounded projection 33' on the end of the flattened portion 33 against the washer 10'.

The handle 37 is provided with outwardly deflected portions 39 to arrange the extremities 40 thereof outwardly from the plate 11 and the gears adjacent thereto so as to facilitate rotation of the same.

When the can opener is to be operated the handles are spread so as to separate the cutter and feeding member 31 to allow the

chime or bead of the can to be arranged between the feeder 31 and the reduced part 24 of the cutter with the cutter located upon the inner side of the wall of the can. The handles are then closed which causes the feeder wheel to engage the lower edge of the bead or chime and to force the cutter into and through the top 41 of the can with the bead arranged between the feeder wheel and the reduced portion of the cutter wheel; this swinging of the cutter member 19 and feed member 31 toward each other, being permitted by virtue of the fact that the levers 15 pivot upon the pivot members 14, and are movable in the enlarged openings 20 in the plates 11. This will also cause the teeth on the gears 28 and 35 to mesh. After the can end 41 has been pierced, the cutter member is rotated by rotation of the lever 37, causing the cutter member and the feed member to travel around the bead formed by the seam 42, the face 22' of the cutter member 19 turning the cut edge 43 of the can downwardly into and against the body of the can, the fact that the cutter is on the opposite side of the body from the feeding member aiding in such action because the clamping action between the said members due to manipulation of the handles 16 will cause the cut edge 43 to be drawn against the inner side of the can body 44. The manner in which the cut edge of the can is turned down against the body portion of the can is shown clearly in Fig. 6, while the cutter is shown in the act of cutting through the can end 41 at the left of Fig. 3.

In order to assure the cutter and feeding members having the proper angular positions relative to the can to turn the cut edge thereof against the body portion of the can, a projection 45 is provided on the feed member 31 engaging the can body to limit the inward movement of the feed member toward the can body. A hub projection 46 is also provided on the cutter member 19 to aid in the assembly thereof. The distance the cutting edge 23 extends into the can is limited by engagement of the annular shoulder 21 with the annular shoulder 47 on the shaft 30.

The hub 45 will normally hold the device, particularly the feed wheel and cutting wheel, in proper cutting position, relative to the can. It is important however, that the cutting wheel move forwardly in engagement with the inner face of the can wall while cutting the top so that the severed top portion at the rim side will be pressed downwardly against the inner wall of the can. This result is normally obtained through the fact that the feeder wheel engages the outer wall of the can and the lower edge of the chime, and is normally retained only in sufficiently spaced relation with the cutting wheel to accommodate the can wall. Should there be an excess of lost motion due to inaccuracy in construction, wear or like causes,

the spacing between the cutting and feeding wheels might be excessive. Engagement of the outer face of the feeding wheel with the inner face of the flange 21 in top cutting

operation of the device will hold the cutting wheel in desired engaged relation with the can wall and in proper spaced relation with the feeding wheel to effect the desired result.

What I claim and desire to secure by Letters Patent is:

1. In a can opener, a plate member, a pair of levers pivotally mounted on the plate member at spaced points and having handle portions, a cutter member rotatably mounted on one of the levers between the lever pivot point and handle portion, a feed member rotatably mounted on the other lever between the pivotal point and the handle portion thereof and in alignment with the cutter member and means for rotating the cutter and feeder members.

2. In a can opener, a plate member, a pair of levers pivotally mounted on the plate member at spaced points and having handle portions, a cutter member rotatably mounted on one of the levers between the lever pivot point and handle portion, a feed member rotatably mounted on the other lever between the pivot point and the handle thereof and in alignment with the cutter member gears on the cutter and feeder members adapted for meshing when the handles are moved toward each other, and means for rotating one of the gears.

3. A can opener including a pair of pivoted levers having handle portions, a cutter member rotatably mounted on one of the levers between the lever pivot point and handle portion, a disk rotatably mounted on the other lever between the pivotal point and the handle portion thereof, a combined guiding and supporting disk rigid with and spaced at its periphery from the cutter member to provide an intervening space to receive the can flange and the first mentioned disk and overlapping and contacting with the said first mentioned disk at the side thereof when in cutting position to prevent lateral displacement of the cutter member and the first mentioned disk, and means for rotating the cutter member.

4. A can opener including a pair of supporting members having relative movement to open and close the can opener, a rotary cutter rotatably mounted on one of the said supporting members, a disk rotatably mounted on the other of said supporting members, said disk and rotary cutter being carried toward and from each other by the relative movement of the said supporting members, a combined guiding and supporting disk rigid with and spaced from the rotary cutter to provide an intervening space to receive the can flange and the said first mentioned disk, and overlapping and contact-

ing with the said first mentioned disk at the side thereof when in cutting position to prevent lateral displacement of the cutter and the first mentioned disk, and means for rotating the said cutter.

In testimony whereof I affix my signature.

CHARLES ARTHUR BUNKER.